

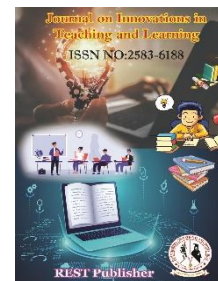
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Micro Learning: A Modernized Education System Using the VIKOR Method

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Abstract: *A micro-teaching clinic marks a performance plateau once educators attain an advanced level. Enhancing teacher performance serves as a beneficial catalyst. Despite highly skilled teachers reaching career peaks initially, they often lack motivation to further elevate their capabilities. Introducing new ideas and effortlessly encouraging them to explore fosters professional growth, benefiting student learning outcomes significantly. A live snake in the hands of a class of micro-teachers. Her lesson's goal was to point out traits unique to snakes that other creatures do not have. His dramatic arrival made the students immediately engaged, and they remained so for the whole five-minute HD instruction. By the time the lesson ends, it's actual Furthermore, it is undeniable that laboratory instruction is not. Supervisors assess and assign scores to pupils of teachers in accordance with the Stanford Assessment Guide. Overall, he scored really well, with an exception of "improving the learning material." This gifted instructor covering a lot of ground in a short amount of time using the lecture method while providing immediate feedback. It was advised that the student concentrate again to give a more succinct summary that was more robust close, and that the topics be restricted to the minimum of three fundamental traits that set snakes apart from other kinds of creatures. The similar handling of snakes lesson was repeated by the teacher, who also provided instant comments on proposed advancement. The instructor, students, and supervisors all saw that the lesson had advanced considerably with frequent repeating. Everyone was in agreement that the content had been well examined and had an extremely clear structure. In addition to "accelerating the curriculum," The VIKOR method, that was developed for multifaceted optimization in complicated systems is becoming more and more common. Its main objective is to rank and choose among alternatives that have disparate and contradictory unit requirements. Concession in the VIKOR method approach is defined as a decision based on common preferences, and compromise ranking is determined by evaluating its degree of near to the optimal solution. Online Courses and Tutorials, Micro-Credentials and Badges, YouTube and Podcasts, Mobile Learning Apps and Self-paced Learning Modules. Cost and Affordability group Learning, Outcomes and Application group, Environment group and Interactivity and Engagement. the final Results of Micro education analysis using the Vikor Method. Micro education in Self-Paced Learning Modules is showing the highest Rank and Mobile Learning Apps is showing the Lowest rank*

Keywords: *Online Courses and Tutorials, Micro-Credentials and Badges, YouTube and Podcasts, Mobile Learning Apps and Self-paced Learning Modules*

1. INTRODUCTION

Micro-pedagogy can Microteaching serves a dual purpose: it identifies specific issues in course delivery diagnostically and provides immediacy from student feedback for evaluative assessment of overall performance. Unlike mere estimates, previous tests of teacher performance, including student evaluations, demonstrate stability. Through an adapted microteaching model, experienced teachers gain fresh insights. Unlike the current framework where trying new approaches in a subject requires waiting until the next year, microteaching allows teachers to explore numerous alternatives with small groups of students, instant evaluation, and the freedom to experiment. This controlled environment enables teachers to apply the program to their classrooms without jeopardizing student learning, providing a more satisfying space to test new methods and content [1]. micro-economic characteristics of

human capital investments an individual has the opportunity to earn a higher return on human capital investment. This opportunity is particularly evident in educational investment. From low level to higher level of education you can live with increasing income. The difference between educational income among developed and less developed countries, along with the appears of their markets, income distributions, and policies, such as those associated to education costs, can be used to defines this situation. When micro-economic evaluation analyze the way knowledge affects wealth, the focus is usually on the number of years an individual spends in school. The most important advantage of these analyzes is the ease of access to this type of data, especially nevertheless knowledge regarding the kind and caliber of education or training does not appear in this information. For example, in OECD member countries such as Denmark and New Zealand, the incomes of people who receive a university education are determined to be 25% higher than those who complete secondary education. The discrepancy can reach as high as 120% for some economies, which makes it even more appealing [2]. Micro-level policies at the district and school levels aim for specific outcomes but often lack foresight, reacting hastily without considering their impact on students or the necessary support for teacher improvement. Fullen (2010) criticizes current strategies in the United States, arguing that they lack effectiveness and focus too much on consequences. Similarly, While macro-level policies are extensively discussed, participants in our data discussions emphasized the importance of aligning macro-level policies with corresponding measures at the micro-level to effectively influence educational outcomes. The central theme revolves around accountability, accompanied by detailed component comments and depicted in our education turbulence theory diagram.. Nicknames will be used This manuscript gives all the names of schools and teacher [3]. Micro-political practices impact recruitment and promotion, influenced by gender dynamics and situational contexts such as Assessor/Candidate roles. These informal power dynamics underscore the significance of recognizing and addressing these procedures, often concealed to preserve an idealized facade. The article proposes employing a framework to unveil and understand such practices. Bureaucratic micro-political practices challenge assumptions of gender-neutrality in recruitment and promotion evaluations, emphasizing the individual's involvement and the relevance of political factors. Despite initial perceptions of extremity, these values ultimately reflect cultural processes and shed light on the intricacies of organizational dynamics [4]. Micro-markets, as discussed by Paul, Bowe, and Kevitz (1993a) and Kevitz, Paul, and Bowe (1993), necessitate theoretical processes that are integral and embedded within broader change processes. While acknowledging the importance of considering the macro dimension, the focus lies on micro markets. This approach aligns with Wright Mills' critique of classical socialscience, highlighting the need to avoid abstract conceptualization without microanalysis or reduction. By building upon emerging choice theory, particularly in consumption, understanding micro-level dynamics contributes significantly to our comprehension of what unfolds on the ground. Thus, while macro concepts remain relevant, addressing micro-markets through focused work enhances our understanding, a notion underscored by Bourdieu's insights. This reciprocal relationship between micro and macro levels informs our exploration of market dynamics [5]. Micro-Nivex dI is an educator's quipe. This is usually referred to as learning by doing. Even while the study had found advantageous situations, it also found questions about the circumstances, quality, and type of the resources that Saudi Arabia offers in this particular area of teacher development. The purpose of this study was initially prompted by escalate, which developed further systems for the construction of an alteration game. The study focused on the techniques used to sample practices from the The organization of Colleges and Schools in the training of new educators as well as the training of educators through their assessment [6]. In in order to integrate higher learning, The establishment of a national "Department of International Education" has paved the way for entrepreneurial educators and the inclusion of foreign students alongside other subjects, as highlighted in the article. This development has also necessitated the creation of administrative structures. As knowledge economy, globalization, and other neoliberal political initiatives diffuse, they render various topics and locations more accessible and dynamic. By linking these themes and geographical regions to spatio-historical contexts and economic structures, adjustments are made to feature the economy's configuration [7]. Actor-network theory, government writing, and acknowledgment of the state of knowledge serve as inspirations for this analytical approach, as articulated by Jones and Murphy (2010). The focus lies on practices within this variant of the analytic turn The classification of 'micro-education' captures both hierarchy and Horizontal patterns of diversity in education. Taking use of the affluent Danish We utilize log-linear methods using information on demographics, that contain four methods of assessing patterns for educational consistency: dividends on learning, macro-education via five aggregation levels, a field of study (16 categories), and a broken down method are the four different methods of macro-education that are presented [8]. micro-educational category involving 54 groupings that include fields of study and grades. From 1984 to 2013, our data indicate a decline in professional prejudice against homosexuals, yet there are inconsistencies. Academic Homosexuality Rates at colleges and schools The amount of macro- or micro-educational activities is significant. When it comes to analyzing relationships in the homogamy table, the micro-education classification does better than any other indicator. Income Measure ('Provides Education') Interpretation:

From 1984 till 2013, there have been unfavorable patterns related to homosexuality [9]. A fresh concept in higher education is the micro-credential, which validates online courses. Awards specific to particular (Rath, 2013; Reid, 2011). They are recognized as valid forms of credentialing by higher education institutions and other educational systems, acknowledging completion based on research and applied evidence. Digital badges, now verified, are increasingly being adopted across various applications within higher education [10]. Micro-focus CT (Micro-CT) serves as a digital 3D imaging modality akin to a light microscope, offering datasets with high resolution. While traditionally employed in engineering, aerospace industries, and early animal studies, it's also utilized for non-destructive testing. Recently, new clinical applications have emerged rapidly, encompassing autopsy and pathological sample analysis. Although 3D models for educational purposes are well-established, they're typically generated from CT or MR examinations. However, with Micro-CT, high-resolution imaging with voxel sizes less than 1 micron is achievable, opening new avenues for medical literature and research [11]. Since the early 1970s, British Sociological Education has placed significant emphasis on the micro-problem, a central aspect that delves into both macro and micro sectors with specific theoretical perspectives, primarily interactivity and marxism in But this concentration has resulted in several of adverse impacts. Firstly, it has spurred debates on the relative advantages of both macro and micro work, commonly resulting in the rejection of one perspective over another. Secondly, the macro-micro debate has raised numerous methodological issues, including the interpretation of large-scale events in relation to small-scale structures. This article delves into one such issue, pondering whether large social events can be interpreted as products of small-scale structures [12].

2. MATERIALS AND METHOD

Online Courses and Tutorials: An online tutorial aims to instruct a specific learning objective through a self-exploratory approach. Typically accessed through platforms like Blackboard, it may also be available through the internet or DVDs. Online courses, structured around a syllabus often divided into units, constitute organized learning programs conducted in virtual environments.

Micro-Credentials and Badges: A Micro-credentials, also referred to as "Micro Credential" or pronounced as "micro credential," represent accredited university-endorsed series of courses culminating in digital badges. These badges signify successful course completion and can be shared with employers and professional networks. Unlike traditional college degrees, badges acknowledge achievements at a more nuanced level or indicate skill acquisition. The utilization of credentials, blockchain technology, and badges in higher education and various professional fields to recognize and validate qualifications is steadily gaining momentum...

YouTube and Podcasts: YouTube and podcasts are both digital platforms used for sharing and consuming audiovisual content, but they differ in their format and distribution methods. Users of YouTube, a website for sharing videos may make, view, and share videos encompassing a range of subjects. It provides a wide range of content, such as video blogs, videos of music, tutorials, videos for learning, entertaining shows, and more.... In summary, while YouTube primarily focuses on video content and interaction, podcasts center around audio content and offer flexible listening options. Both platforms serve as valuable mediums for entertainment, education, information, and storytelling in the digital age.

Mobile Learning Apps: Mobile learning apps are software applications designed to facilitate learning and educational activities on mobile devices such as smartphones and tablets. These apps leverage the portability, accessibility, and versatility of mobile technology to provide users with opportunities for learning anytime and anywhere. Here's an overview of how mobile learning apps work and their key features:

Self-paced Learning Modules: components for learning on your own refer to educational materials or courses that learners can engage with at their own speed and convenience. Unlike traditional classroom settings or instructor-led courses, self-paced learning modules allow individuals to progress through the content autonomously, without being restricted by fixed schedules or timelines.

Cost and Affordability group: The term "Cost and Affordability group" typically refers to a category or classification of individuals or entities that are grouped together based on their ability to bear expenses or afford certain goods, services, or resources. The Cost and Affordability group enables stakeholders to design interventions, policies, and pricing structures that address the needs and constraints of various socioeconomic groups, ultimately promoting greater accessibility, equity, and affordability in goods and services.

Learning Outcomes and Application group: The Learning Outcomes and Application group focuses on aligning educational objectives with practical, real-world application. It emphasizes not only what learners should know and understand but also how they can effectively apply their knowledge and skills to solve problems, make decisions, and achieve desired outcomes in various contexts. This group is instrumental in designing curriculum, instructional

strategies, and assessment methods that promote meaningful learning and facilitate the transfer of knowledge to practical applications.

Environment group: The term "Environment group" could refer to a variety of contexts, each emphasizing the concept of environment within a particular domain. Here are a few potential interpretations: Natural Environment Group, Built Environment Group, Social Environment Group, Work Environment Group, Learning Environment Group, Overall, the term "Environment group" can encompass various contexts, each focusing on different aspects of the environment relevant to its specific domain or area of interest.

Interactivity and Engagement: There is an important difference between communication and engagement. Communication involves active participation and getting the audience to do something. Engagement, on the other hand, is about how engaged the audience is and whether they value the content. Knowing the basic principles of interpersonal relationships is essential to appreciating how engaging agents—such as humans, robots, animals, etc. perceive and utilize things, equipment and other processes.

VIKOR method: Involving the assumptions which compromise is accepted for resolving the dispute, the choice maker chooses a solution that is close to the ideal, and all options are considered, the VIKOR approach was developed to address MCDM problems with competing and incompatible (different units) criteria. established norms. When there are competing criteria, this approach focuses on ranking and selecting among a range of options and suggesting a compromise (or several concessions) [13]. To find weight stability intervals, stability analysis and evaluation of trade-offs are added to the VIKOR approach. Three multimodal approaches to making decisions are contrasted with the expanded VIKOR technique. A VIKOR method emphasizing all types of criteria for compromise solution is proposed in this paper [14]. The proposed comprehensive version of VIKOR overcomes the main error of traditional VIKOR through a simplified approach. The proposed method should have properties similar to those of human tissue in various applications, especially in biomedical applications. Five examples are included to illustrate and justify the suggested methodology [15]. The VIKOR method, that was developed for multifaceted optimization in complicated systems is becoming more and more common. Its main objective is to rank and choose among alternatives that have disparate and contradictory unit requirements. Concession in the VIKOR method approach is defined as a decision based on common preferences, and compromise ranking is determined by evaluating its degree of near to the optimal solution. Chang [16]. designed an improved version of the VIKOR method as a way to prevent numerical troubles when applying the original VIKOR approach to solve difficulties Determining positive as well as negative ideal points within a solution space is The basic concept behind the VIKOR method technique [17]. The primary purpose is to rank and select amongst just a handful of viable options when competing and incompatible (having different units of measurement) criteria are presented. According to 'closeness' to the 'best' solution,' it evaluates a multicriteria appraisal score. By evaluating the relative proximity to the perfect other options, an equitable ranking can be constructed after examining every choice in light of all factor. Therefore, the acceptable solution that is reached is the workable solution that is the furthest from the negative ideal solution and most similar to the positive ideal solution; compromise is the agreement reached by mutual sacrifices between all of the options [18]. VIKOR is a multi-sectoral ranking index. The VIKOR index is based on a measure of "closeness" to the "ideal" solution In this document, we explain how the VIKOR ranking index can be used to select a RE investment project. In the following section, we will look at the use of multidimensional methods for decision-making in the financial backing of RE programs [19]. The VIKOR methodology is used on Choosing a Green Energy Sources project inside the limits of the Spanish government's renewable energy program, which was launched in 2005. Vikor was first introduced as a matching technique in the context of the MCDM issue. Then, as a way to cope with distinct issues associated with disparate units and opposing criteria, it was created as a multiple factors method for making decisions. This method depends on picking from a number of choices.. Then, so as to aid those making decisions in coming at a final respond to, a compromise answer to the issues with opposing factors is used [20].

3. ANALYSIS AND DISCUSSION

Table 1 shows the Micro Education for VIKOR method Online Courses and Tutorials, Micro-Credentials and Badges, YouTube and Podcasts, Mobile Learning Apps, Self-paced Learning Modules Evaluation. Alternatives is Cost and Affordability group, Learning Outcomes and Application group, Environment group, Interactivity and Engagement the Best and Worst Value.

TABLE 1. Micro education is the Best and worst Value

	Cost and Affordability group	Learning Outcomes and Application group	Environment group	Interactivity and Engagement
Online Courses and Tutorials	15.504	17.083	45.062	35.036
Micro-Credentials and Badges	28.421	13.56	17.025	28.632
YouTube and Podcasts	25.451	32.123	45.362	48.035
Mobile Learning Apps	18.023	36.025	52.036	15.265
Self-paced Learning Modules	26.36	19.202	12.63	36.025
Best	15.504	36.025	52.036	15.265
Worst	28.421	13.56	12.63	48.035

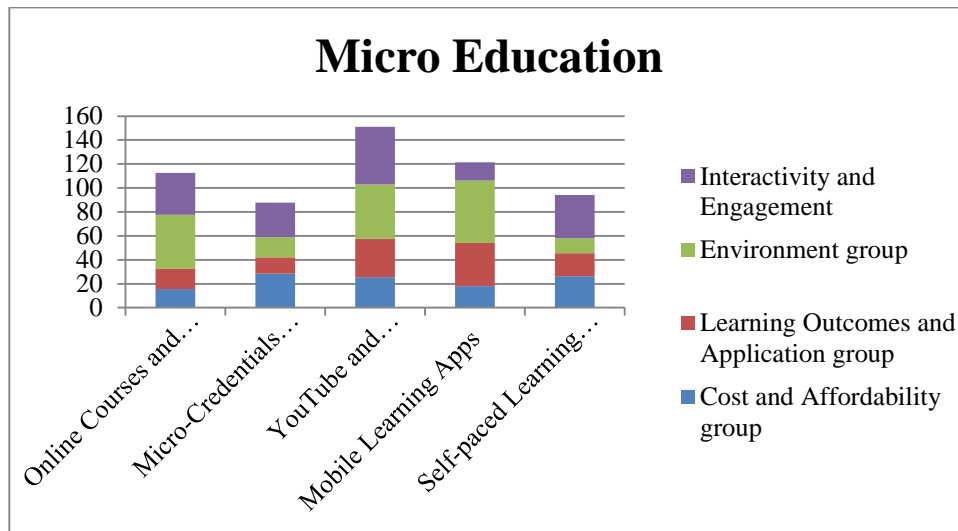


FIGURE 1. Micro education is the Best and worst Value

Figure 1 shows the Micro Education for VIKOR method Online Courses and Tutorials, Micro-Credentials and Badges, YouTube and Podcasts, Mobile Learning Apps, Self-paced Learning Modules Evaluation. Alternatives is Cost and Affordability group, Learning Outcomes and Application group, Environment group, Interactivity and Engagement the Best & Poor Quality. Micro-credits and badges offer the worst worth, while technology and processes are showing the most good value in online courses and lessons. Small-scale credentials and Badges display the Worst value, while Courses that are online and Tutorials are displaying the Best value. The best value for communication and involvement is being shown by innovation and procedures, while the most detrimental value is being shown by cleaning challenges.

TABLE 2. Computation Sj and Rj

				Sj	Rj
0	0.210795	0.044245	0.150832	0.405871	0.210795
0.25	0.25	0.222117	0.101976	0.824093	0.25
0.192518	0.043423	0.042341	0.25	0.528282	0.25
0.048754	0	0	0	0.048754	0.048754
0.210111	0.187213	0.25	0.158377	0.805701	0.25

Table 2 shows the calculations of S_j and R_j , which is the sum of all of the tabulation 1's normalized and is derived from the identification of the highest and lowest value.

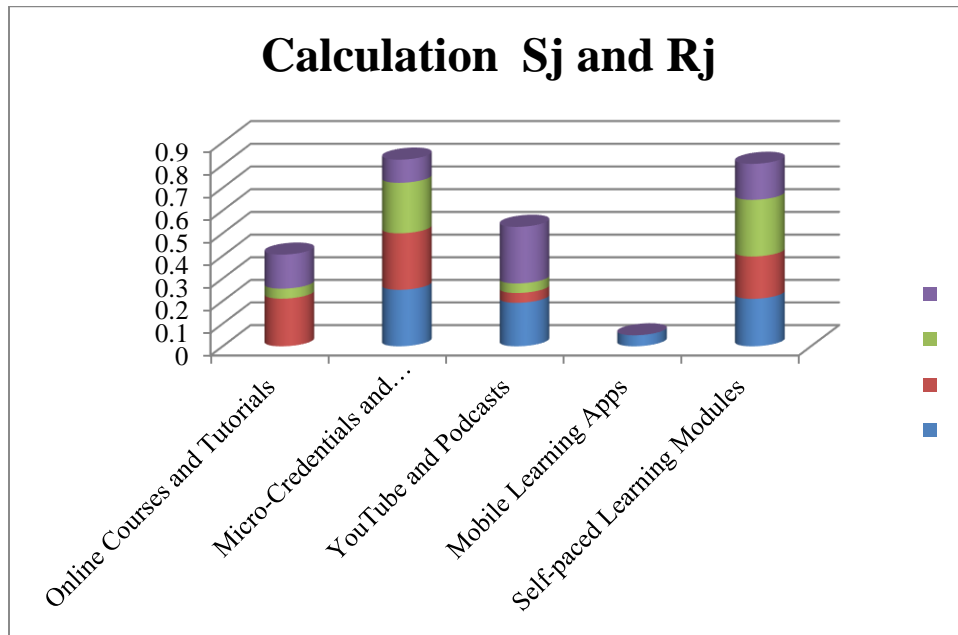


FIGURE 2. Calculation S_j and R_j

Figure 2 shows the calculations of S_j and R_j , which is the sum of all of the tabulation 1's normalized and is derived from the identification of the highest and lowest value.

TABLE 3. Final Result of Calculation Q_j

	S_j	R_j	Q_j
Online Courses and Tutorials	0.767497	0.405871	0.530319
Micro-Credentials and Badges	1.176069	0.824093	0.98298
YouTube and Podcasts	1.028282	0.528282	0.726039
Mobile Learning Apps	0.097507	0.048754	0
Self-paced Learning Modules	1.214077	0.805701	0.988139
S+ R+	0.097507	0.048754	
S- R-	1.214077	0.824093	

Table 3 displays the conclusive Results of Calculation Q_j , which represents the rank derived from the sum of all of the computations from S_j and R_j . shows the Micro Education for VIKOR method the Best value for Online Courses and Tutorials and Micro-Credentials and Badges is showing the Worst The greatest benefit for communication and involvement is being shown by innovation and methods, while the lowest value is been shown by cleaning problems.

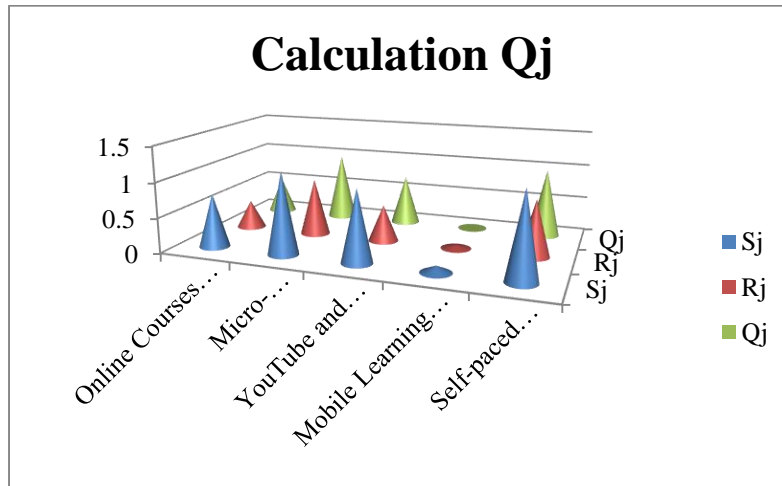


FIGURE 3. Calculation Qj

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TABLE 4. Rank

	Rank
Online Courses and Tutorials	4
Micro-Credentials and Badges	2
YouTube and Podcasts	3
Mobile Learning Apps	5
Self-paced Learning Modules	1

Table 4 shows the final Results of Micro education analysis using the Vikor Method. Micro education in Self-paced Learning Modules is showing the highest Rank and Mobile Learning Apps is showing the Lowest rank

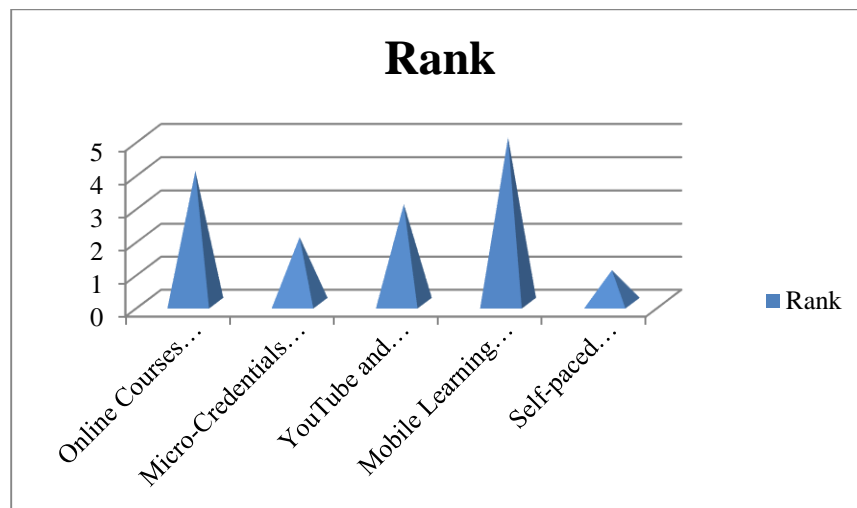


FIGURE 4. Shown the Rank

Figure 4 shows the final Results of Micro education analysis using the Vikor Method. Micro education in Self-paced Learning Modules is showing the highest Rank and Mobile Learning Apps is showing the Lowest rank.

4. CONCLUSION

A micro-teaching clinic marks a performance plateau once educators attain an advanced level. Enhancing teacher performance serves as a beneficial catalyst. Despite highly skilled teachers reaching career peaks initially, they often lack motivation to further elevate their capabilities. Introducing new ideas and effortlessly encouraging them to explore fosters professional growth, benefiting student learning outcomes significantly. A live snake in the hands of a class of micro-teachers. Her lesson's goal was to point out traits unique to snakes that other creatures do not have. His dramatic arrival made the students immediately engaged, and they remained so for the whole five-minute HD instruction. By the time the lesson ends, it's actual Furthermore, it is undeniable that laboratory instruction is not. Supervisors assess and assign scores to pupils of teachers in accordance with the Stanford Assessment Guide. Micro-pedagogy can Microteaching serves a dual purpose: it identifies specific issues in course delivery diagnostically and provides immediacy from student feedback for evaluative assessment of overall performance. Unlike mere estimates, previous tests of teacher performance, including student evaluations, demonstrate stability. Through an adapted microteaching model, experienced teachers gain fresh insights. Unlike the current framework where trying new approaches in a subject requires waiting until the next year, microteaching allows teachers to explore numerous alternatives with small groups of students, instant evaluation, and the freedom to experiment. This controlled environment enables teachers to apply the program to their classrooms without jeopardizing student learning, providing a more satisfying space to test new methods and content [1]. micro-economic characteristics of human capital investments an individual has the opportunity to earn a higher return on human capital investment. This opportunity is particularly evident in educational investment. From low level to higher level of education you can live with increasing income. The difference between educational income among developed and less developed countries, along with the appears of their markets, income distributions, and policies, such as those associated to education costs, can be used to defines this situation. When micro-economic evaluation analyze the way knowledge affects wealth, the focus is usually on the number of years an individual spends in school The VIKOR method, that was developed for multifaceted optimization in complicated systems is becoming more and more common. Its main objective is to rank and choose among alternatives that have disparate and contradictory unit requirements. Concession in the VIKOR method approach is defined as a decision based on common preferences, and compromise ranking is determined by evaluating its degree of near to the optimal solution. Online Courses and Tutorials, Micro-Credentials and Badges, YouTube and Podcasts, Mobile Learning Apps and Self-paced Learning Modules. Cost and Affordability group Learning, Outcomes and Application group, Environment group and Interactivity and Engagement. the final Results of Micro education analysis using the Vikor Method. Micro education in Self-paced Learning Modules is showing the highest Rank and Mobile Learning Apps is showing the Lowest rank

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